

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

1. (Currently Amended) A vector control apparatus for an induction motor characterized by comprising:

a mutual inductance correction section that obtains a correction value of a mutual inductance of said induction motor based on an error between a torque calculation value calculated by using a measured value of a primary current of said induction motor and a torque command value to said induction motor generated by a torque command generation section; and

a vector control section that controls said induction motor by using a circuit constant of said induction motor including said correction value of said mutual inductance in such a manner that a torque generated by said induction motor coincides with said torque command value[[:]],

wherein said circuit constant set in said vector control section includes a primary resistance set value, said vector control section obtains a voltage command value and a slide angular frequency command value from said circuit constant, and said mutual inductance correction section generates said correction value of said mutual inductance by correcting said initial set value of said mutual inductance based on a correction value calculated by using said voltage command value, an output angular frequency of an inverter obtained by adding a measured value of an electric motor rotational angular frequency of said induction motor to said slide angular frequency command value, said

primary resistance set value, said measured value of said primary current and said torque command value.

2. (Cancelled)

3. (Previously Presented) The vector control apparatus for an induction motor as set forth in claim 1, characterized in that wherein said circuit constant includes a secondary resistance set value; and said vector control apparatus further comprises a secondary resistance compensation section that corrects said secondary resistance set value.